April 30, 2003

Re: University of Notre Dame du Lac 141-15828-000130

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for consideration at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

PART 70 SIGNIFICANT SOURCE MODIFICATION AND MAJOR MODIFICATION UNDER PREVENTION OF SIGNIFICANT DETERIORATION

OFFICE OF AIR QUALITY

University of Notre Dame du Lac
100 Facilities Building
Notre Dame, Indiana 46556

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is also issued in accordance with 40 CFR Part 70, Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et.seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR §70.6, IC 13-15 and IC 13-17.

This permit is issued under the provisions of 326 IAC 2 and 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-1.1-6 (Public Notice), IC 4-21.5-3-7 (Review; Petition; Denial of Petition; Preliminary Hearing) and IC 13-15-6 (Appeal of Agency Determination to Issue or Deny Permit) with conditions listed on the attached pages.

Significant Source Modification No.: 141-15828-00013	
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 30, 2003

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary power plant.

Responsible Official:	Vice President for Business Operations
Source Address:	100 Facilities Building, Notre Dame, IN 46556
Mailing Address:	302 Main Building, Notre Dame, IN 46556
Phone Number:	(574) 631-9826
SIC Code:	8221
County Location:	St. Joseph
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source under PSD

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This modification to a stationary source is approved to construct and operate the following emission units and pollution control devices:

(a) Three (3) diesel-fired generators, identified as Nos. 5, 6 and 7, with a maximum rated capacity of 2,593 brake horsepower each, exhausting to stacks S/V 6, S/V 7 and S/V 8, with total additional generator capacity of 5.79 MW.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This modification to a stationary source also includes the following insignificant activity, which is specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) One (1) underground diesel fuel storage tank, identified as UST, with maximum storage capacity of 30,000 gallons.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR §70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance. Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-1.1-6 (Public Notice), IC 4-21.5-3-7 (Review; Petition; Denial of Petition; Preliminary Hearing) and IC 13-15-6 (Appeal of Agency Determination to Issue or Deny Permit) this approval can be appealed as specified in these provisions.

B.3 Permit Expiration Date [326 IAC 2-2-8(a)(1)]

Pursuant to 326 IAC 2-2-8(a)(1) (PSD Requirements: Source Obligation) this permit to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is discontinued for a continuous period of eighteen (18) months or more, or if construction is not completed within reasonable time. IDEM may extend the eighteen (18) month period upon satisfactory showing that an extension is justified.

B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application or the permit. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application or the permit in a manner that is regulated under the provisions of 326 IAC 2-2, the source may not begin operation until the source modification has been revised pursuant to the provisions of that rule and the provisions of 326 IAC 2-2 and an Operation Permit Validation Letter is issued.

(c) If actual construction of the emissions units differs from the construction proposed in the application or the permit in a manner that is not regulated under the provisions of 326 IAC 2-2, the source may not begin operation until the source modification has been revised pursuant to the provisions of 326 IAC 2-7-10.5 and the provisions of 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

(e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

(1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.

(2) If the Part 70 permit has gone through final USEPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45-day USEPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.

(3) If the Part 70 permit has gone through public notice, but has not gone through final USEPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after USEPA review.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The PMP does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Inspection and Entry [326 IAC 2-7-6]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this approval;

(b) Have access to and copy any records that must be kept under this title or the conditions of this approval or any operating permit revisions;

(c) Inspect, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this approval or any operating permit revisions;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this approval or applicable requirements; and,

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this approval or applicable requirements.

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR Part 51, 40 CFR Part 60, 40 CFR Part 61, 40 CFR Part 63, 40 CFR Part 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by

the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The Commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the Commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.10 Monitoring Methods [326 IAC 3] [40 CFR Part 60] [40 CFR Part 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR Part 60, Appendix A; 40 CFR Part 60, Appendix B; 40 CFR Part 63, or other approved methods as specified in this permit.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Whenever a condition in this permit requires the measurement of a temperature and/or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.12 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with Subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit, so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall constitute a violation of the permit.

(c) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment, and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly-signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred, and the Permittee can, to the extent possible, identify the causes of the emergency.

(2) The permitted facility was at the time being properly operated.

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered.

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile, to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and,

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee

may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to non-compliant stack tests.

The documents submitted pursuant to this condition require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.15 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when the new or modified equipment begins normal operation.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this Condition and reports required by Conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is

due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) Three (3) diesel-fired generators, identified as Nos.5, 6 and 7, with a maximum rated capacity of 2,593 brake horsepower each, exhausting to stacks S/V 6, S/V 7 and S/V 8, with total additional generator capacity of 5.79 MW.

(b) One (1) underground diesel fuel storage tank, identified as UST, with maximum storage capacity of 30,000 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Nitrogen Oxides (NO_X) Emission Limitations for Diesel-Fired Generators [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5, 2-2-6 (PSD Requirements: Air quality impacts and increment consumption), NO_X emissions from each diesel-fired generator unit shall be controlled using retarded ignition timing, and shall not exceed 37.44 pounds per hour.

D.1.2 Sulfur Dioxide (SO_2) Emission Limitations for Diesel-Fired Generators [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5, 2-2-6 (PSD Requirements: Air quality impacts and increment consumption), the SO_2 emissions from each diesel-fired generator unit shall not exceed 6.7 pounds per hour.

D.1.3 Particulate Matter 10 (PM_{10}) Emission Limitations for Diesel-Fired Generators [326 IAC 2-2-2]

Pursuant to 326 IAC 2-2-2 (PSD requirements: Applicability) in order to render minor modification status under PSD for PM_{10} emissions, PM_{10} (where PM_{10} includes both filterable and condensable components) emissions from each diesel-fired generator unit shall not exceed 0.87 pounds per hour. If the stack test required under Condition D.1.9 shows that the PM_{10} limit is not achievable in practice for the generators, the Permittee may request the Department to revise the permit to adjust the PM_{10} limitations. This request shall meet the requirements of 326 IAC 2-2 (PSD requirements). The Department will provide an opportunity for public notice and comment prior to finalizing any permit revision. IC 13-15-7-3 (Revocation or Modification of a Permit: Appeal to Board) shall apply to this permit condition.

D.1.4 Particulate Emission Limitations for diesel fired generators [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2 (a), particulate matter emissions from the diesel fired generators shall not exceed 0.03 grain per dry standard cubic foot.

D.1.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) SO_2 emissions from the diesel-fired generators shall not exceed five tenths (0.5) pounds per MMBtu heat input. Pursuant to 326 IAC 7-2-1(c)(3) compliance shall be demonstrated on a calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus upon request.

D.1.6 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to one (1) underground diesel fuel storage tank, identified as UST, described in this section except when otherwise specified in 40 CFR 60 Subpart Kb.

D.1.7 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR §60.116b]

The one underground diesel storage tank, identified as UST, shall comply with New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR §60.116b,

Paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

D.1.8 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan of this permit, is required for these emission units and any control devices.

Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Testing Requirements [326 IAC 3-6] [326 IAC 2-7-6(1),(6)]

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform NO_X, PM and PM_{10} testing, utilizing methods approved by the Commissioner, on a representative number of diesel-fired generators to comply with Conditions D.1.1, D.1.3 and D.1.4. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. These tests shall be performed in accordance with Section C – Performance Testing.

D.1.10 SO_2 Emissions and Sulfur Content

Compliance shall be determined utilizing one (1) of the following options:

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that SO_2 emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or,

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR Part 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and,

(B) If a partially empty fuel tank is refilled, a new sample and analysis is required upon filling.

(b) Compliance also may be determined by conducting a stack test for SO_2 emissions from the diesel-fired generator, using 40 CFR Part 60, Appendix A, Method 6 in accordance with procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.11 Visible Emissions Notations

(a) Visible emission notations of the diesel-fired generator stack exhausts shall be performed once per shift during normal daylight operations while combusting diesel fuel. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shutdown time.

(c) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that

specific process.

(d) The Compliance Response Plan for the units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.12 Record Keeping Requirements

(a) To document compliance with Conditions D.1.2 and D.1.5, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly, and shall be complete and sufficient to establish compliance with the SO_2 emission limit established in Conditions D.1.2 and D.1.5.

(1) Calendar dates covered in the compliance determination period;

(2) Actual diesel fuel usage since last compliance determination period and equivalent SO_2 emissions; and,

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and,

(6) A statement from the fuel supplier that certifies the sulfur content of the diesel fuel.

(b) To document compliance with Condition D.1.11, the Permittee shall maintain records of visible emission notations of the diesel-fired generator stacks exhaust once per shift.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

D.1.13 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.5 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 SIGNIFICANT SOURCE MODIFICATION
EMERGENCY OCCURRENCE REPORT

Source Name:	University of Notre Dame du Lac
Source Address:	100 Facilities Building, Notre Dame, IN 46556
Mailing Address:	302 Main Building, Notre Dame, IN 46556
Permit No.:	141-15828-00013

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)
The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 SIGNIFICANT SOURCE MODIFICATION CERTIFICATION

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, IN 46556
Mailing Address: 302 Main Building, Notre Dame, IN 46556
Permit No.: 141-15828-00013

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 SIGNIFICANT SOURCE MODIFICATION
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, IN 46556
Mailing Address: 302 Main Building, Notre Dame, IN 46556
Permit No.: 141-15828-00013

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 SIGNIFICANT SOURCE MODIFICATION
Quarterly Report – Sulfur Dioxide Emissions

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, IN 46556
Mailing Address: 302 Main Building, Notre Dame, IN 46556
Permit No.: 141-15828-00013
Facility: three diesel fired generators, Nos.5, 6 and 7, with a maximum rated capacity of 2,593 brake horsepower each,
Parameter: Sulfur Dioxide (SO_2)
Limit: 0.5 pounds per million Btu heat input

FACILITY: _____ YEAR: _____

Month	Monthly Average Fuel Oil Sulfur Content (%)	Monthly Average Fuel Oil Heat Content (MMBtu/lb)	Fuel Oil Consumption (Gallons)	Equivalent Sulfur Dioxide Emissions (lbs/MMBtu)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section
Office Of Air Quality
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

University of Notre Dame du Lac
302 Main Building,
Notre Dame, IN 46556

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____,I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____ .
(Company Name)

4. I hereby certify that University of Notre Dame du Lac, 100 Facilities Building, Notre Dame, IN 46556, has constructed the equipment in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on July 08, 2002 and as permitted pursuant to Source Modification No. 141-15828-00013 issued on

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

_____
Signature

_____
Date

STATE OF INDIANA)
)SS
COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____ .

My Commission expires: _____

_____
Signature

_____
Name (typed or printed)

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Part 70 Significant Source Modification and Prevention of Significant Deterioration Review

Source Description and Amendment Request

Source Name:	University of Notre Dame du Lac
Source Location:	100 Facilities Building, Notre Dame, IN 46556
County:	St. Joseph
SIC Code:	8221
Operation Permit No.:	141-7412-00013
Operation Permit Issuance Date:	Not Yet Issued
Significant Source Modification No.:	141-15828-00013
Permit Reviewers:	Gurinder Saini

On March 20, 2003, the Office of Air Quality (OAQ) had a notice published in the South Bend Tribune, South Bend, Indiana, stating that University of Notre Dame du Lac, had applied for a Part 70 Significant Source Modification and Prevention of Significant Deterioration Review. The Permittee requested for addition of three (3) new diesel fired generators to the plant. The public notice also stated that OAQ proposed to issue the PSD approval for this operation and provided information on how the public could review the proposed approval and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on the draft permit.

Changes by IDEM, OAQ

Based on the approval status of the PSD State Implementation Plan, the cover page and condition B.2 are revised as follows. In addition IDEM, OAQ is correcting the reference to the Indiana Code in the condition as follows (where the language added is shown with **bold** and deleted is shown with ~~strikeout~~):

The language on the cover page is changed as follows:

> (herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.
>
> This approval is also issued in accordance with 40 CFR Part 70, Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et.seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR §70.6, IC 13-15 and IC 13-17.
>
> ~~This permit is issued under the provisions of 326 IAC 2 and 40 CFR § 52.21 (Prevention of Significant Deterioration) and 40 CFR Part 124 (Procedure for Decision Making), with conditions listed on the attached pages.~~
>
> ~~-or-~~
>
> This permit is issued under the provisions of 326 IAC 2 and 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-1.1-6 (Public Notice), IC 4-21.5-3-7 (Review; Petition; Denial of Petition; Preliminary Hearing) and IC 13-15-~~7-1 (Objections; request for adjudicator hearing)~~ **6 (Appeal of Agency Determination to Issue or Deny Permit)** with conditions listed on the attached pages.

The condition B.2 is revised as follows:

~~B.2 Effective Date of the Permit [IC13-15-5-3]~~

~~Pursuant to 40 CFR §124.15, 40 CFR §124.19, and 40 CFR §124.20, this permit becomes effective upon its issuance, if no comments are received during the comment period for this permit.~~

~~*-or-*~~

~~Pursuant to 40 CFR §124.15, 40 CFR §124.19, and 40 CFR §124.20, the effective date of this permit will be thirty (30) days after the service of notice of the decision, if comments are received during the public comment period for this permit. Three (3) days shall be added to the thirty (30) day period if service of notice is by mail.~~

~~Alternative B.2 condition depending upon the program approval status~~

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance. Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-1.1-6 (Public Notice), IC 4-21.5-3-7 (Review; Petition; Denial of Petition; Preliminary Hearing) and IC 13-15~~-7-1 (Objections; request for adjudicator hearing)~~ **6 (Appeal of Agency Determination to Issue or Deny Permit)** this approval can be appealed as specified in these provisions.

Comments by University of Notre Dame

On April 14, 2003, Thomas M. Stark of University of Notre Dame submitted comments on the draft modification 141-15828-00013. These comments and IDEM, OAQ responses to the same are presented in the following pages. The permit changes where text deleted are shown with a strikeout and that added are shown in bold are as follows:

Comment 1:

Condition D.1.6 references two (2) propylene glycol tanks. The proposed project does not include such equipment; as such, the referenced condition should be stricken from the draft Permit.

Response 1:

The condition D.1.6 is revised as follows to remove the incorrect reference:

D.1.6 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to ~~the two (2) propylene glycol storage tanks, identified as 383 and 384~~ **one (1) underground diesel fuel storage tank, identified as UST**, described in this section except when otherwise specified in 40 CFR 60 Subpart Kb.

Comment 2:

Finally, Condition A.3 indicates that the proposed modification does not include insignificant activities. As detailed in the Application, potential emissions associated with the proposed underground storage tank (UST) are estimated below the applicable significance threshold for Part 70 purposes. The UST was included on the revised Form 10(a) included in the Application. Accordingly, Condition A.3 should be revised to reflect the subject UST.

Response 2:

The underground storage tank for diesel fuel identified as UST, meets the requirements of insignificant activities under 326 IAC 2-7-1 (21), because the potential uncontrolled VOC

emissions from this unit are less than 15 pounds per day. Therefore, conditions A.2 and A.3 in the permit are revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This modification to a stationary source is approved to construct and operate the following emission units and pollution control devices:

(a) Three (3) diesel-fired generators, identified as Nos. 5, 6 and 7, with a maximum rated capacity of 2,593 brake horsepower each, exhausting to stacks S/V 6, S/V 7 and S/V 8, with total additional generator capacity of 5.79 MW.

~~(b) One (1) underground diesel fuel storage tank, identified as UST, with maximum storage capacity of 30,000 gallons.~~

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

~~This modification to a stationary source does not include insignificant activities.~~

This modification to a stationary source also includes the following insignificant activity, which is specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) One (1) underground diesel fuel storage tank, identified as UST, with maximum storage capacity of 30,000 gallons.

Comment 3:

PARTICULATE EMISSIONS

Condition D.1.4 establishes particulate matter (PM) emissions limitations for the proposed generators in accordance with 326 IAC 6-1-2(a). The subject regulation applies to facilities in St. Joseph County with potential PM emissions of 100 tons per year (tpy), or actual PM emissions of 10 tpy. The University understands that facility is defined at 326 IAC 1-2-27 as

…any one structure, piece of equipment, installation or operation which emits or has the potential to emit any air contaminant. Single pieces of equipment or installations with multiple emission points shall be considered a facility…

As provided in the Application, total estimated potential PM emissions for the project are approximately 11.4 tpy, well under the 100 tpy threshold. Additionally, individual PM emissions for each generator or facility are less than 10 tpy. Accordingly, the University asserts that 326 IAC 6-1-2(a) is not applicable to the proposed project, and Condition D.1.4 should be stricken from the draft Permit.

Response 3:

The Indiana Administrative Code (IAC) in the Section 326 IAC 6-1-1 states the applicability of non-attainment area particulate emissions rules. It states in this section that, "[S]ources or facilities.. shall comply with the limitations of section 2 of this rule, if the **source or facility** … has the potential to emit one hundred (100) tons or more, has actual emissions of ten (10) tons or more, of particulate matter per year. [emphasis added]"

Historically, the IDEM, OAQ has interpreted the above section to mean that if either the Source or the Facility (emissions unit) has potential to emit greater than 100 tons per year than the facilities are subject to the requirements of this regulation. These requirements are specified in 326 IAC 6-1-2. The potential to emit of this Source (University of Notre Dame) is greater than 100 tons per year for particulate matter. Therefore, IDEM, OAQ has concluded that diesel fired generators are subject to the requirements of this rule. No changes are required to any permit conditions.

Comment 4:

SULFUR DIOXIDE EMISSIONS

Condition D.1.5 establishes a sulfur dioxide (SO2) emissions compliance demonstration based upon a thirty (30) day rolling weighted average. The University concurs that 326 IAC 7-2-1 is the applicable overall citation however specific compliance demonstrations based upon total heat input rating are mandated in the subsections. The proposed generators total heat input rating is 54.45 mmbtu per hour. Accordingly, the University requests that the Condition D.1.5, second sentence, be revised to read as follows:

Pursuant to 326 IAC 7-2-1(c)(3) compliance shall be demonstrated on a calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus upon request.

Response 4:

The IDEM, OAQ concurs with the Permittee. The condition D.1.5 is revised as follows:

D.1.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) SO_2 emissions from the diesel-fired generators shall not exceed five tenths (0.5) pounds per MMBtu heat input. Pursuant to 326 IAC 7-2-**1(c)(3) compliance shall be demonstrated on a calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus upon request** ~~1, compliance shall be demonstrated on a thirty (30) day rolling weighted average~~.

Comment 5:

NEW SOURCE PERFORMANCE STANDARDS

Condition B.8 requires that the University comply with federal New Source Performance Standards (NSPS) Subpart A[1] notification requirements. The University concurs that the proposed UST is subject to applicable record keeping requirements of NSPS Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels.[2] However, as noted at §60.110b of Subpart Kb, vessels storing a liquid with a maximum true vapor pressure of less than 15.0 kPa are exempt from the provisions of Subpart A. The associated maximum true vapor pressure of diesel fuel is well under 15.0 kPa. Accordingly, Condition B.8 should be stricken from the draft Permit. Alternatively, the University proposes inclusion of clarifying language (See, Attachment A).

Response 5:

The IDEM, OAQ concurs with the Permittee. The condition B.8 is deleted as follows:

~~B.8 NSPS Reporting Requirement~~

~~Pursuant to the New Source Performance Standards (NSPS), Part 60.7, Part 60.8, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:~~
~~(a) Commencement of construction date (no later than 30 days after such date);~~
~~(b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);~~
~~(c) Actual start-up date (within 15 days after such date); and~~
~~(d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.~~

~~Reports are to be sent to:~~

[1] 40 CFR Part 60, Subpart A.

[2] 40 CFR Part 60, Subpart Kb.

~~Indiana Department of Environmental Management~~
~~Compliance Data Section, Office of Air Quality~~
~~100 North Senate Avenue P.O. Box 6015~~
~~Indianapolis, IN 46206-6015~~

~~The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.~~

Comment 6:

EMISSIONS TESTING
Condition D.1.9 establishes requirements for testing of the proposed generators for nitrogen oxides (NO_x), SO_2, PM and particulate matter less than ten microns (PM_{10}) emissions. As indicated in the Application, estimated potential emissions of SO_2 are calculated using standard emissions factors.[1] As such, compliance with applicable emissions limitations can be readily demonstrated using record keeping and reporting requirements contained elsewhere in the draft Permit. Accordingly, the University requests that the subject condition be amended to remove the reference to SO_2 emissions testing.

Additionally, the draft Permit establishes emission limitation for PM and PM_{10}. As noted above, the University asserts that the cited PM regulation is not applicable to the proposed project. Any reference to PM emissions testing should be deleted from Condition D.1.9.

Response 6:

The IDEM, OAQ concurs with the request to remove SO2 emissions testing for the generators. The compliance conditions in the permit along with the use of AP-42 [Compilation of Air Pollutant Emission Factors, Stationary Point and Area Sources, Fifth Edition, Chapter 3.4 'Gaseous Emission Factors for Large Stationary Diesel Engines'] is sufficient to make SO2 limitations 'enforceable as practical matter'. Therefore, IDEM, OAQ will delete the requirement to stack test for SO2 emissions. In addition as discussed in Response 3 above, the IDEM, OAQ disagrees with the assertion by the Permittee that the regulations under 326 IAC 6-1-2 do not apply to the generators. Therefore, no changes are made to PM testing requirements. The conditions D.1.9 and D.1.12 are revised as follows:

D.1.9 Testing Requirements [326 IAC 3-6] [326 IAC 2-7-6(1),(6)]

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform NO_X, ~~SO_2~~, PM and PM_{10} testing, utilizing methods approved by the Commissioner, on a representative number of diesel-fired generators to comply with Conditions D.1.1, ~~D.1.2,~~ D.1.3 and D.1.4. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. These tests shall be performed in accordance with Section C – Performance Testing.

D.1.12 Record Keeping Requirements

(a) To document compliance with Condition**s D.1.2 and** D.1.5, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly, and shall be complete and sufficient to establish compliance with the SO_2 emission limit established in Condition**s D.1.2 and** D.1.5.

(1) Calendar dates covered in the compliance determination period;

(2) Actual diesel fuel usage since last compliance determination period and equivalent

[1] Table 3.4-1, *Gaseous Emission Factors for Large Stationary Diesel Engines*, AP-42 Chapter 3.4, *Large Stationary Diesel Engines* (October 1996).

SO_2 emissions; and,

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and,

(6) A statement from the fuel supplier that certifies the sulfur content of the diesel fuel.

(b) To document compliance with Condition D.1.11, the Permittee shall maintain records of visible emission notations of the diesel-fired generator stacks exhaust once per shift.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

Comment 7:

VISIBLE EMISSIONS
Condition D.1.11 prescribes compliance monitoring requirements regarding visible emissions for the proposed units. The Condition requires that, in the case of batch or discontinuous operations, readings should be taken during that part of the operation that would normally be expected to cause the greatest emissions which typically is startup. The proposed generators will normally be fired on an intermittent, as needed basis. As indicated in Appendix B of the Application, manufacturer testing under multiple-load conditions indicates that opacity for the proposed units is not anticipated to exceed 3%. Accordingly, the University requests that the draft Permit be amended to require visible emissions monitoring under the same conditions as proposed for "continuous operation."

Response 8:

The IDEM, OAQ clarifies that the operation of the diesel fire generators is not considered a 'batch or discontinuous operation'. The operation of generator is a continuous process once the initial startup has been achieved. The language about 'batch or discontinuous operation is provided as part of standard language for this condition. This language is hereby deleted as follows:

D.1.11 Visible Emissions Notations

(a) Visible emission notations of the diesel-fired generator stack exhausts shall be performed once per shift during normal daylight operations while combusting diesel fuel. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shutdown time.

~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~

(~~d~~**c**) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(~~e~~**d**) The Compliance Response Plan for the units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps

in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Prevention of Significant Deterioration Review

Source Background and Description

Source Name:	University of Notre Dame du Lac
Source Location:	100 Facilities Building, Notre Dame, IN 46556
County:	St. Joseph
SIC Code:	8221
Operation Permit No.:	141-7412-00013
Operation Permit Issuance Date:	Not Yet Issued
Significant Source Modification No.:	141-15828-00013
Permit Reviewers:	Gurinder Saini

The Office of Air Quality (OAQ) has reviewed a modification application from University of Notre Dame du Lac (the University), relating to the construction and operation of the following emission units and pollution control devices:

(a) Three (3) diesel-fired generators, identified as Nos. 5, 6 and 7, with a maximum rated capacity of 2,593 brake horsepower each, exhausting to stacks S/V 6, S/V 7 and S/V 8, with total additional generator capacity of 5.79 MW.

(b) One (1) underground diesel fuel storage tank, identified as UST, with maximum storage capacity of 30,000 gallons.

History

The University Power Plant was initially constructed in 1932, and consists of 5 boilers, which are currently not subject to New Source Performance Standard. The electric power and steam produced from this plant is consumed onsite. The remaining portion of electric demand is met through a contract with American Electric Power (AEP). Per recent negotiations with AEP, the University is expecting a rate change with an “interruptible service” agreement. As part of this potential agreement, additional diesel-fired equipment and a storage tank will be needed at the site. On July 08, 2002, the University submitted an application to OAQ requesting to add three (3) diesel-fired generators to the existing plant. The University applied for a Part 70 permit on December 09, 1996.

Stack Summary

Stack ID	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
S/V 6	30	1.33	15,676	899
S/V 7	30	1.33	15,676	899
S/V 8	30	1.33	15,676	899

Recommendation

The staff recommends to the Commissioner that the major modification under Prevention of Significant Deterioration and Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions.

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 08, 2002.

Emission Calculations

See Appendix A (page 1 of 1) of this document for detailed emissions calculations. The emission calculations for the Hazardous Air Pollutants (HAPs) submitted by the applicant were verified and found to be correct. The emission calculations for the loss of diesel from the underground storage tank submitted by the applicant were verified and found to be correct. These calculations are attached at the end of Appendix A.

Potential To Emit of the Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

The following table reflects PTE before controls from all emission units listed on page 1 of this TSD. Control equipment is not considered federally enforceable until it has been required in a federally-enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	11.4
PM_{-10}*	11.4
SO_2	88.2
VOC	15.2
CO	40.1
NO_x	492

*assuming PM_{10} equals PM

HAPs	Potential To Emit (tons/year)
Highest single HAP (Benzene)	0.068
Aggregate of HAPs	0.13

Justification for Modification

(a) This change is being approved through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (f)(4)(D) and (f)(1) because the PTE of NO_X and SO_2 are greater than 25 tons per year, and this is a major modification under 326 IAC 2-2 (Prevention of Significant Deterioration, or PSD).

(b) This modification is major for PSD review, because the net emissions increase from this modification is greater than significance thresholds under 326 IAC 2-2-1 as explained in the following sections.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM_{-10}	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOCs) are precursors for the formation of ozone. VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR §52.21.

(b) St. Joseph County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR §52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM_{-10}	75
SO_2	1,839
VOC	3
CO	95
NO_X	435

(a) This existing source is a major stationary source for PSD because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

(b) The information in the above table is based on the emissions statement submitted by this source for the year 2000.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM_{10}* (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)
Proposed Modification	11.4	11.4	88.2	15.2	40.1	492
Net Emissions	11.4	11.4	88.2	15.2	40.1	492
PSD Significant Level	25	15	40	40	100	40

*assuming PM_{10} equals PM

(a) This modification is major for PSD Review, because the potential to emit for NO_X and SO_2 is greater than 40 tons per year.

(b) The Permittee proposes to use retarded ignition timing to control NO_X emissions from the diesel-fired generators.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source submitted a Part 70 (T 141-7412-00013) application on December 09, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

(a) The underground diesel storage tank has capacity more than 75 cubic meters and less than 151 cubic meters, and will store liquid with a maximum true vapor pressure less than 15 kilopascals. Therefore, the tank is exempt from the general provisions of 40 CFR Part 60 and the provisions of Subpart Kb except as specified in paragraphs (a) and (b) of 40 CFR §60.116b, which require record keeping.

(b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

(d) This modification is not subject to the requirements of Acid Rain Program (40 CFR 72), because the source does not produce electricity for sale.

(e) The source is not subject to the provisions of 40 CFR Part 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three (3) criteria for a given pollutant: 1) the unit is subject to an emission limitation or standard for the applicable regulated air pollutant, 2) the unit uses a control device to achieve compliance with any such emission limitation or standard, and, 3) the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal or greater than 100 percent of the amount required for a source to be classified as a major source. The diesel-fired generators do not use any control devices, although the NO_X potential to emit is greater than 100 tons per year.

State Rule Applicability

326 IAC 1-6-3 (Preventive Maintenance):

(a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) after commencement of operation, including the following information:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and,

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the PMPs as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMPs shall be submitted to IDEM and OAQ upon request and shall be subject to review and approval by IDEM and OAQ.

326 IAC 1-7 (Stack Height Provisions):

Stacks are subject to the requirements of 326 IAC 1-7 (Stack Height Provisions) because the potential emissions which exhaust through the above-mentioned stacks are greater than 25 tons per year of PM and SO_2. This rule requires that the stack be constructed using Good Engineering Practice (GEP), unless field studies or other methods of modeling show to the satisfaction of IDEM that no excessive ground level concentrations, due to less than adequate stack height, will result.

326 IAC 2-4.1-1 (HAPs Major Source: New Source Toxics Rule)

The New Source Toxics Control rule requires any new or reconstructed major source of hazardous air pollutants (HAPs) for which there is no applicable NESHAP to implement maximum achievable control technology (MACT), determined on a case-by-case basis, when the potential to emit of any single HAP is greater than 10 tons per year.

HAP emissions from the diesel-fired generators are below the thresholds specified above. Therefore, these emissions are not subject to the requirements of this rule.

326 IAC 2-2-3 (Best Available Control Technology)

The construction and operation of the three (3) diesel-fired generators Nos. 5, 6 and 7 modification is located at a non-profit educational institution. Therefore, pursuant to 326 IAC 2-2-2(d), this modification is exempt from this requirement. The applicant submitted copies of letters from the Internal Revenue Services confirming the not-for-profit status for the University's operation per the Section 509 and 501 of the IRS code.

326 IAC 2-2-5 and 326 IAC 2-2-6 (Air quality impacts and Increment consumption)

The attached modeling analysis, included as Appendix B, was conducted to show that the major new source does not violate the NAAQS and does not exceed the incremental consumption above eighty percent (80%) of the PSD increment for any affected pollutant. To maintain this status, pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), the Permittee shall limit NO_X emissions using retarded ignition timing to less than 37.44 pounds per hour and SO_2 emissions to less than 6.7 pounds per hour from each diesel-fired generator.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 10 tons/year of NO_X and is located in St. Joseph County. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by April 15 of each year, and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

The source is located in the area north of Kern Road and east of Pine Road. Therefore, pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-1 (Particulate Rules: Nonattainment Area Limitations)

This source has potential to emit particulate matter greater than 100 tons per year and the three (3) dieselfired generators have actual emissions of particulate matter are greater than 10 tons per year. Therefore, pursuant to 326 IAC 6-1-1 (a)(2), these units are subject to the requirements of this rule. Pursuant to 326 IAC 6-1-2 (a), particulate matter emissions from the dieselfired generators shall not exceed 0.03 grain per dry standard cubic foot.

326 IAC 7-1 (Sulfur Dioxide Emission Limitations)

The three (3) diesel-fired generators are subject to the requirements of 326 IAC 7-1 because the plant is a fuel combustion facility, and SO_2 potential to emit is greater than 25 tons per year. Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from the diesel generators shall be no greater than 0.5 lb/MMBtu of distillate oil consumed.

One diesel-fired generator = 2593 horsepower
Average conversion factor is 1 hp-hr = 7000 Btu

Therefore heat input to the diesel-fired generator =

2593 hp-hr X 7000 Btu/hr-hr/1,000,000 = 18.15 MMBtu/hour

Therefore, based on this rule SO_2 allowable emissions are =

18.15 MMBtu/hour X 0.5 lb/MMBtu = 9.1 lb/hour

This allowable is greater than the allowable under 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore complying with limit under PSD ensures compliance with this limit.

Pursuant to 326 IAC 7-2-1, the Permittee shall submit reports of the calendar month average sulfur content, heat content, fuel consumption and SO_2 emissions rate in pounds per million Btu, upon request by IDEM, OAQ.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The modification to install three diesel generator engines has potential VOC emissions less than 25 tons per year. Therefore, pursuant to 326 IAC 8-1-6 (New facilities, General Reduction Requirements), the requirements of BACT do not apply to these engines.

326 IAC 8 (Volatile Organic Compound Requirements)

The three diesel generator engines are not subject to any state VOC requirements because there is no source-specific RACT for the proposed operation.

326 IAC 9 (Carbon Monoxide Emission Limits)

Pursuant to 326 IAC 9 (Carbon Monoxide Emission Limits), the source is subject to this rule because it is a stationary source that emits CO emissions and commenced operation after March 21, 1972. Under this rule, there is no specific emissions limit because the source is not an operation listed under 326 IAC 9-1-2.

326 IAC 10 (Nitrogen Oxides)

This power plant is not an “Electricity Generating Unit” because it does not produce electricity for sale. Therefore, the units are not subject to the requirements of Rule 326 IAC 10-4-1 that establishes a NO_X trading program.

Testing Requirements

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform SO_2, NO_X and PM_{10} tests, utilizing methods approved by the Commissioner to show compliance with the SO_2, NO_X and PM_{10} limits. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the

emissions units are in compliance.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that source can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to these modifications are as follows:

(a) Visible emission notations of the diesel-fired generator stack exhausts shall be performed once per shift during normal daylight operations while combusting diesel fuel. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shutdown time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for the units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Conclusion

Construction and operation of this proposed modification shall be subject to the conditions of the attached Major Modification under Prevention of Significant Deterioration and Part 70 Significant Source Modification No. 141-15828-00013.

TANKS 4.0
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	UND Substation - Proposed Generators
City:	South Bend
State:	Indiana
Company:	University of Notre Dame du Lac
Type of Tank:	Horizontal Tank
Description:	Proposed Diesel Fuel Underground Storage Tank

Tank Dimensions

Shell Length (ft):	47.00
Diameter (ft):	10.50
Volume (gallons):	30,000.00
Turnovers:	41.64
Net Throughput (gal/yr):	1,249,125.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	Y

Paint Characteristics

Shell Color/Shade:	
Shell Condition:	

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: South Bend, Indiana (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Surf. Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	48.98	48.96	48.98	48.52	0.0045	0.0045	0.0045	130.0000			188.00	Option 5: A=12.101, B=8907

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)

Annual Emission Calculations	
No Standing Losses: Underground Tank	
Working Losses (lb):	15.3272
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Annual Net Throughput (gal/yr.):	1,249,125.000 0
Annual Turnovers:	41.6375
Turnover Factor:	0.8872
Tank Diameter (ft):	10.5000
Working Loss Product Factor:	1.0000
Total Losses (lb):	15.3272

Appendix B - Air Quality Analysis

Source Background and Description

Source Name:	University of Notre Dame du Lac
Source Location:	100 Facilities Building, Notre Dame, IN 46556
County:	St. Joseph
SIC Code:	8221
Operation Permit No.:	141-7412-00013
Operation Permit Issuance Date:	Not Yet Issued
Significant Source Modification No.:	141-15828-00013
Modeling Reviewer:	Steven Sherman

Introduction

University of Notre Dame du Lac (Notre Dame) has applied for a Prevention of Significant Deterioration (PSD) Permit to construct 3 diesel-fired generators on campus in St. Joseph County, Indiana. The proposed site will be located at Universal Transverse Mercator (UTM) coordinates 563500 East and 4618000 North. St. Joseph County is designated attainment for all criteria pollutants. All air quality modeling and analysis treats the proposed permit as a major modification.

APT Limited prepared the permit application for Notre Dame. The Office of Air Quality (OAQ) received the permit application on July 08, 2002. This document provides the OAQ review of the modeling section of the permit application.

Air Quality Impact Objectives

The purpose of the air quality impact analysis in the permit application is to accomplish the following objectives. Each objective is individually addressed in this document in each section outlined below.

A. Establish which pollutants require an air quality analysis based on PSD significant emission rates.

B. Provide analyses of actual stack heights with respect to Good Engineering Practice (GEP), the meteorological data used a description of the model used in the analysis, and the receptor grid utilized for the analyses.

C. Determine the background (existing) air quality levels, the significant impact area (if one is established) the area of potential impact of the source's emissions and the need for more refined (cumulative) modeling.

D. Demonstrate that the source will not cause or contribute to a violation of the National Ambient Air Quality Standard (NAAQS) or PSD increment if the applicant exceeds significant impact levels.

E. Perform an analysis of any air toxic compound with a health risk factor on the general population.

F. Perform a qualitative analysis of the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas. The nearest Class I area is Kentucky's Mammoth Cave National Park, which is more than 100 kilometers from the proposed site in St. Joseph County, Indiana.

G. Summarize the Air Quality Analysis

Analysis Summary

The air quality impact analysis determined that refined modeling would be required for both Nox and SO2 since pollutant concentrations did exceed significant impact levels. The NAAQS for those standards were shown to be maintained. The Reactive Plume Model–IV (RPM-IV) results showed no significant impact to ozone formation. Hazardous Air Pollutant (HAP) concentrations were all below .5% of the Permissible Exposure Limit (PEL). Based on these modeling results, the proposed Notre Dame Plant will not adversely impact air quality.

Section A

Pollutants Analyzed for Air Quality Impact

The PSD requirements, 326 IAC 2-2, apply in attainment and unclassifiable areas and require an air quality impact analysis of each regulated pollutant emitted in significant amounts by a major stationary source or modification. Significant emission levels for each pollutant are defined in 326 IAC 2-2-1. Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2) are the pollutants that will be emitted from the electric generation facility. Therefore, an air quality analysis is required for these pollutants, which exceeded their significant emission rates as shown in Table 1:

TABLE 1
Significant Emission Rates for PSD

POLLUTANT	SOURCE EMISSION RATE[1] (Facility Totals)	SIGNIFICANT EMISSION RATE	PRELIMINARY AQ ANALYSIS REQUIRED
	(tons/year)	(tons/year)	
PM_{10}	11	15.0	No
NO_2	492	40.0	Yes
VOC (O_3)	15	40.0	No
CO	40	100.0	No
SO_2	88	40	Yes

[1] PTE emissions after controls based on 8760 hours of operation.
[2] No AQ analysis is required under the PSD regulations.

Section B

Stack Height Compliance with Good Engineering Practice (GEP)

Stacks should comply with GEP requirements established in 326 IAC 1-7-1. If stacks are lower than GEP, the modeled concentrations may be significantly higher due to aerodynamic downwash. Stacks taller than 65 meters (213 feet) are limited to GEP, the stack height for establishing emission limitations. The GEP stack height takes into account the distance and dimensions of nearby structures, which would affect the downwind wake of the stack. The downwind wake is considered to extend five times the lesser of the structure's height or width.

A GEP stack height is determined for each nearby structure by the following formula:

$$Hg = H + 1.5L$$

Where: Hg is the GEP stack height
H is the structure height
L is the structure's lesser dimension (height or width)

Since the stack heights of the proposed facility were below GEP stack height the effect of aerodynamic downwash was accounted for in the air quality analysis for the proposed electric generation facility.

Meteorological Data

The meteorological data used in the Industrial Source Complex Short Term (ISCST3) model consisted of years 1990 through 1994 surface data from the South Bend Airport Weather Service station merged with the mixing heights from Peoria, Illinois Airport National Weather Service station. The meteorological data were preprocessed into ISCST3 ready format using U.S.EPA's PCRAMMET and provided to the consultant by the Indiana Department of Environmental Management (IDEM).

Model Description

RTP Environmental and OAQ independently used the ISCST3 model, version 02035 to determine maximum off-property concentrations or impacts for each pollutant. All regulatory default options were utilized in the U.S. EPA approved model, as listed in the 40 Code of Federal Register Part 51, Appendix W "Guideline on Air Quality Models". The Auer Land Use Classification Scheme was used to determine the land use in the area. The area is considered primarily rural; therefore, a rural classification was used.

Receptor Grid

RTP and IDEM modeling utilized the receptor which extended around the property. The largest grid of 250 meters extended three kilometers. A large grid consisting of receptors spaced at 100 meter increments out to a distance of two kilometers. A refined grid of receptors was spaced at 35 meters.

Section C

Significant Impact Level/Significant Impact Area (SIA) and Background Air Quality Levels

RTP Environmental and Notre Dame determined the worst case operating scenarios for modeling. These scenarios were based on different operating load conditions, stack temperatures, and flow rate conditions.

The consultant performed an air quality modeling analysis to determine if the source exceeded the significant impact levels (concentrations). If the source's concentrations exceed these levels, IDEM and USEPA guidance requires further air quality analysis. Significant impact levels are defined by the time periods presented in the following Table as well as all maximum modeled concentrations from the worst case operating scenarios. Since the pollutants exceeded the significant impact level, further modeling was performed to insure the increment and the NAAQS were maintained.

Table 3
Significant Impact Analysis

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m^3)	SIGNIFICANT IMPACT LEVEL (ug/m^3)	REFINED AQ ANALYSIS REQUIRED
NO_2	Annual	8.0	1	Yes
SO_2	3 Hour	52.4	25	Yes
SO_2	24 Hour	24.5	5	Yes
SO_2	Annual	1.9	1	Yes

[1]U.S. EPA NO2/NOx ratio was used to determine NO2 impacts based on the NOx emission rates. 40 CFR 51, Appendix W – Guideline on Air Quality Models.

An emission start-up modeling analysis was not performed because start-up time for these units would be less than five minutes.

O_3 does not have a significant impact level to determine whether modeling is needed. The significant emission rate for VOCs and NOx is used to determine the need for O_3 modeling. OAQ policy is to perform an air quality screening analysis for O_3 since the source's NOx emissions exceeded the significant emission rate. The RPM-IV modeling was used to calculate the O_3 concentrations as a result of NOx emissions from the source. Screening results from the ozone modeling are described in more detail in Section D of this document.

Section D

Maximum allowable increases (PSD increments) are established by 326 IAC 2-2 for NO_2, SO_2 and PM_{10}. This rule limits a source to no more than 80 percent of the available PSD increment to allow for future growth. 326 IAC 2-2-6 describes the availability of PSD increment and maximum allowable increases as increased emissions caused by the proposed major PSD source will not exceed 80 percent of the available maximum allowable increases over the baseline concentrations for sulfur dioxide, and nitrogen dioxide. Table 4 shows the results of the PSD increment analysis for PM_{10}. No violations of 80 percent of the PSD increment for PM_{10} occurred and no further modeling was required.

Table 4
Increment Analysis

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m^3)	CLASS II INCREMENT (ug/m^3)
NO_2	Annual	9.0	25
SO_2	3 Hour	47.1	512
SO_2	24 Hour	21.6	91
SO_2	Annual	2.0	20

[1]U.S. EPA NO2/NOx ratio was used to determine NO2 impacts based on the NOx emission rates. 40 CFR 51, Appendix W – Guideline on Air Quality Models.

Emission inventories of PM_{10} sources in Indiana and Michigan within a 50 kilometer radius of the site were taken from the OAQ emission statement database. OAQ modeling results are shown in Table 5. Maximum concentrations of PM_{10} for the 24-hour time-averaged periods were below their respective NAAQS limit and further modeling was not required.

Table 5
NAAQS Analysis

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m^3)	MONITORING BACKGROUND (ug/m^3)	TOTAL (ug/m3)	NAAQS STANDARD (ug/m^3)
NO_2	Annual	27.6	30.1	57.7	100
SO_2	3 Hour	629.0	77.8	706.8	1300
SO_2	24 Hour	255.4	33.2	288.6	365
SO_2	Annual	30.1	10.5	40.6	80

[1]U.S. EPA NO2/NOx ratio was used to determine NO2 impacts based on the NOx emission rates. 40 CFR 51, Appendix W – Guideline on Air Quality Models.

RPM-IV Inputs for O_3 (VOC and NOx) NAAQS Analysis

The RPM-IV model is used as a screening tool to predict O_3 impact from the facility. It is a photochemical plume-segment model that simulates a photochemical plume by representing the plume as a series of cells across the horizon of the plume. RPM-IV consists of a Lagrangian model that follows a parcel of air pollutants as it travels downwind from a point source. Simulation of ambient air and resulting chemical transformations with a plume occur within the model to represent conditions in the atmosphere.

The RPM-IV model was run in two modes; the first mode determined ambient conditions for a day when high O_3 concentrations were recorded. The second mode injects the SO2 and NOx plume from the point source into the ambient mode. The second mode will thus contain both ambient and plume injected concentrations. The concentration from the second mode is subtracted from the first mode at specified downwind distances and the difference between the two modes is the impact from the source. Source impact, which is less than 3 parts per billion (ppb) is not significant and is not subject to further refined modeling. There are five main sections, which make up a RPM-IV input file. These sections and a short description of each are as follows:

1) INPUT - Define plume type, duration, location, output interval and plume definition and program flow variables.
2) CHEMIN - Define chemical mechanism RPM-IV reaction species, product species, reaction rates, and temperature.
3) SOURCES - Data for emission injections, which include stack parameters and source emission rates.
4) METIN - Meteorological and ambient species concentrations, plume expansion rates and photolysis reaction rates.
5) RESULT - Parameters, which control the display of RPM-IV simulation.

The plume-injected mode models the ambient conditions as well as VOCs and NOx emissions from the source. Complete stack information as well as each specie's emission rate must be input into the model. VOC and NOx specie concentrations from the source are listed in Table 6.

TABLE 6
Source Species emissions (g/sec)

CHEMICAL SPECIES/CATEGORY	EMISSION RATES (g/s)
SO2	2.53
NO2	2.83
NO	11.31

The meteorological data used is June 6, 1995. The meteorological conditions chosen are conducive to ozone formation. Since RPM-IV is used as screening model, the meteorological conditions are not specific to a locality but are more regional in nature. These meteorological conditions can occur at any given location in the state.

It is assumed that all SO2 and NOx emissions come from the one stack, since RPM-IV is used as a screening tool. The RPM-IV modeling results are shown in Table 7.

TABLE 7
Notre Dame NAAQS Analysis for Ozone

SIMULATION TIME	AMBIENT MODE SIMULATION	PLUME INJECTED SIMULATION	DIFFERENCE PLUME – AMBIENT
(minutes)	(ppb)	(ppb)	(ppb)
0	43.0	43.0	0
60	52.0	35.1	-16.1
120	62.9	56.2	-6.7
180	75.5	70.4	-5.1
240	88.8	83.1	-5.7
300	99.1	94.6	-4.5
360	106	104	-2
420	111	108	-3
480	113	111	-2
540	115	111	-4
600	116	112	-4
660	116	112	-4
720	116	112	-4

All plume-injected modes minus ambient are negative for every time period. The proposed facility's impact according to this model and will not worsen air quality. Further modeling for O_3 impacts from this source is not required.

Part E

Hazardous Air Toxics Analysis and Results

The OAQ presently requests data concerning the emission of 189 HAPs listed in the 1990 Clean Air Act Amendments (CAAA) which are either carcinogenic or otherwise considered toxic and may be used by industries in the State of Indiana. These substances are listed as air toxic compounds on the State of Indiana, Department of Environmental Management, Office of Air Quality's construction permit application Form Y. Any HAP emissions are subject to toxic modeling analysis.

The consultant and OAQ modeled the toxics using ISCST3 and compared the maximum-modeled 8-hour concentration with the 0.5% PEL value, and the annual concentration to the Cumulative Exposure Project (CEP) value. The maximum-modeled concentrations are shown in Table 8.

Table 8
Air Toxic Analysis

Toxic Compound	tons/year	8-hour Conc. (ug/m3)	0.5% of PEL (ug/m3)	Annual Conc. (ug/m3)	CEP (ug/m3)
Acetaldehyde	**.0022**	**.003**	**1800**	**.00013**	**0.45**
Acrolein	.0007	.001	1.25	.00004	N/A
Benzene	.0681	.088	16	.00393	0.13
Formaldehyde	.0069	.009	4.65	.00040	0.077
Naphthalene	.0114	.015	250	.00066	N/A
Toluene	.0246	.032	3750	.00142	N/A
Xylene	.0170	.022	2175	.00098	N/A

None of HAPs exceed 0.5% of the PEL nor the CEP.

Part F

Additional Impact Analysis

The University is a nonprofit educational institution, so this project is exempt from additional impact analysis requirements. No analysis of growth, vegetation, soils, water, and visibility is required.

Additional Analysis Conclusions

The nearest Class I area to the electric generation facility is Mammoth Cave National Park located approximately 200 km to the south in Kentucky, well outside the 100 km Class I range. No additional analysis is required.

Part G

Summary of Air Quality Analysis

Notre Dame has applied for a PSD construction permit to construct an electric generation facility near campus in St. Joseph County, Indiana. APT Limited prepared the PSD application. St. Joseph County is designated as attainment for all criteria pollutants. SO_2 and NO_2 emission rates associated with the proposed electric generation facility exceeded the respective significant emission rates. Modeling results taken from the latest version of the ISCST3 model showed SO_2, and NO_2 impacts were predicted to be greater than the significant impact levels. Refined modeling showed that those standards were

maintained. RPM-IV modeling results showed no significant impact to ozone formation. An air toxic analysis was preformed as a precautionary measure and no modeled concentrations were above the 0.5% of PEL. The nearest Class I area is Mammoth Cave National Park in Kentucky, approximately 200 kilometers to the south of the source. No additional impact analysis was required of this nonprofit institution.